

REMARKS

Claims 8, 15, and 19 are presently in the application. Claims 1-7, 9-11, 14, 18, 23, and 24 have been canceled. Claims 12, 13, 16, 17, 20-22 and 25-27 have been withdrawn from further consideration as being drawn to a nonelected species.

Reconsideration of the rejection of claims 8 and 15 under 35 U.S.C. 103(a) as being unpatentable over Talaski (US 2005/0016599) is respectfully requested.

Looking at applicants' Fig. 5, claim 8 is directed to a valve 34 for a high-pressure pump of a fuel injection system, the valve having a valve member 35 which cooperates with a valve seat 44 formed in a housing part on which valve seat the valve member rests when the valve is closed in order to close a bore 32 through the housing part, the valve seat having an at least approximately conical seat face 45 which is located at a transition of the bore from a portion 32a of small diameter to a portion 32b of large diameter, the conical seat face 45 being formed as a section of a cone having a first cone angle between the seat face and a diametric longitudinal axis of the valve seat, the improvement wherein the conical seat face 45, on its side oriented toward the portion of large diameter, is adjoined by a first conical surface 54 formed as a section of a cone having a second cone angle between the first conical surface and the longitudinal axis which is larger than said first cone angle, wherein the conical seat face 45, on its side oriented toward the portion of small diameter, is adjoined by a second conical surface 52 formed as a section of a cone having a third cone angle between the second conical surface and the longitudinal axis which is smaller than said first cone angle, wherein the first conical surface 54 is adjoined by a third conical surface 55 formed as a section of a cone having a fourth cone angle between the third conical surface and the longitudinal axis which is larger than said second cone angle, and wherein the second conical

surface 52 is adjoined by a fourth conical surface 53 formed as a section of a cone having a fifth cone angle between the fourth conical surface and the longitudinal axis which is smaller than said third cone angle, resulting in an overall shape of the adjoined surfaces being a **stepped trumpet-like shape, which flares out from the portion of small diameter to the portion of large diameter.**

In other words, claim 8 requires the conical seat face 45 to be adjoined on both sides by conical faces 52, 54, which, in turn, are each adjoined by at least one further conical face 53 and 55.

Talaski shows in Fig. 8 a valve with a bore (14') of increasing diameter from left to right. Talaski discloses at least 5 conical surfaces (40) located along this bore, each formed of a section of a cone which has a cone base angle. In the direction of increasing bore diameter (from left to right, FIG 8), Talaski discloses these cone sections to have increasing cone slopes and therefore increasing cone base angles.

The examiner's reasoning with respect to the broad interpretation of a "cone angle" is understood, but does not change the fact that Talaski clearly differs from the invention as claimed and as shown in Fig. 5 of the present application. The invention has a flared, ***stepped, trumpet-like shape***, while Talaski shows a smooth, inwardly curved shape from the small diameter portion to the large diameter portion.

To support a rejection of a claim under 35 U.S.C. 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Claim 8 as amended requires that there is a conical seat face which is adjoined on both sides by further conical faces is not present in Talaski. In Talaski, there are admittedly two successive conical faces with different cone angles, but there is no conical seat face. Instead, the ball in Talaski comes into contact with the edge between the conical face with the largest cone angle and the adjoining cylindrical bore, as the valve seat. Moreover, the cone angle of the conical faces in Talaski decreases from the valve seat onward and a stepped, trumpet or funnel-shaped widened portion is not created. Therefore, claims 8 and 15 are not anticipated by Talaski as required under 35 U.S.C 102.

Claim 19 was rejected under 35 USC 103(a) as being unpatentable over Talaski in view of Trudeau (WO 99/64202).

The examiner says that Talaski discloses the invention as claimed, with exception of the hardened seat. Trudeau teaches that it was known in the art at the time of invention to harden such a valve seat. Trudeau, however, does not solve the deficiencies in the Talaski reference noted above. Thus, even if it had been obvious to combine the teachings of either Talaski with those of Trudeau, one of ordinary skill in the art would not have arrive at the subject matter defined by claim 19.

Neither Talaski nor Trudeau when taken alone or combined disclose or suggest the recited elements and structural arrangement of a valve member, a valve seat formed in a hardened housing part, and a bore through the housing part as defined by claim 8, with an overall shape of the adjoined surfaces of the valve seat resulting in a stepped trumpet-like shape, as required under 35 U.S.C. 103.

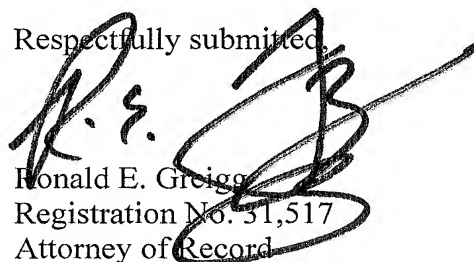
Appl. No. 10/579,852
Amdt. dated March 5, 2010
Reply to Office action of November 5, 2009

Accordingly withdrawal of the rejections and allowance of the claims is respectfully requested.

The Commissioner is hereby authorized to charge any/all fees associated with this communication to Deposit Account Number 07-2100.

Entry of the amendment and allowance of the application are respectfully requested.

Respectfully submitted,



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